

2017 Demystifying Medicine Lecture Series

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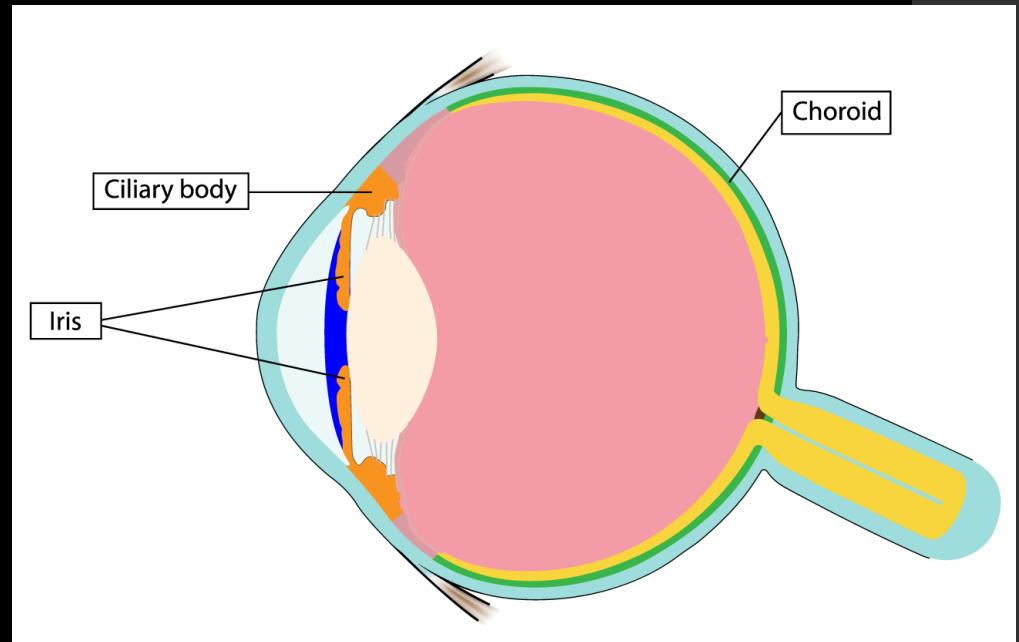
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Autoimmune-mediated Uveitis

- Uveitis is defined as the inflammation of the uveal tract which encompasses:
 - The iris
 - The ciliary body
 - The choroid
- Uveitis is responsible for up to 15% of severe visual impairment in USA and Europe.
- Uveitis can be infectious or non-infectious.
- Autoimmune uveitis are non-infectious disease involving predominantly CD4+ Th1 T cells specific to retinal autoantigens.



Prevalence of Uveitis worldwide

TABLE I - REPORTED ANNUAL INCIDENCE AND PREVALENCE OF UVEITIS IN DIFFERENT POPULATION-BASED STUDIES

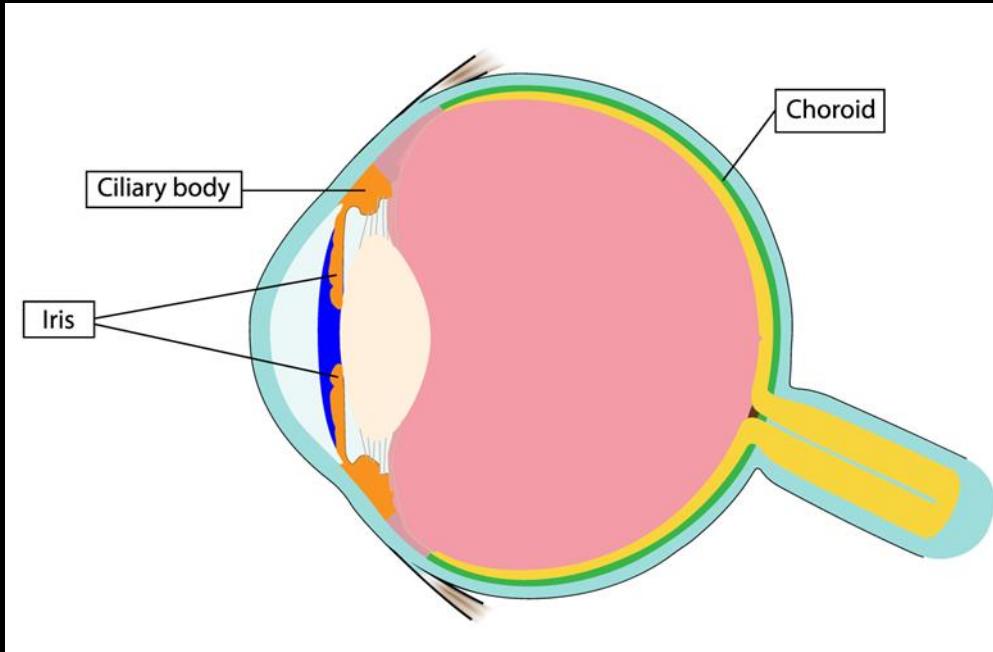
Region	Setting survey	Time period	Population size	Incidence (per 100,000 persons per year)	Prevalence (per 100,000 persons)
Rochester, Minnesota, United States (1)	Resident population	1945-1954	29,885	17	204
Johannesburg, South Africa (64)	Bantu-speaking community	1971-1973	652,259	25	—
Turku, Southwestern Finland (47)	Single center	1980-1982	459,515	22.6	75.4
Andhra Pradesh, India (8)	Resident population	1996-1997	3,500,000	—	714.3
Northern California, United States (9)	Multiple centers	1998-1999	731,895	52	114.5

Prevalence of Uveitis in US - Claims based

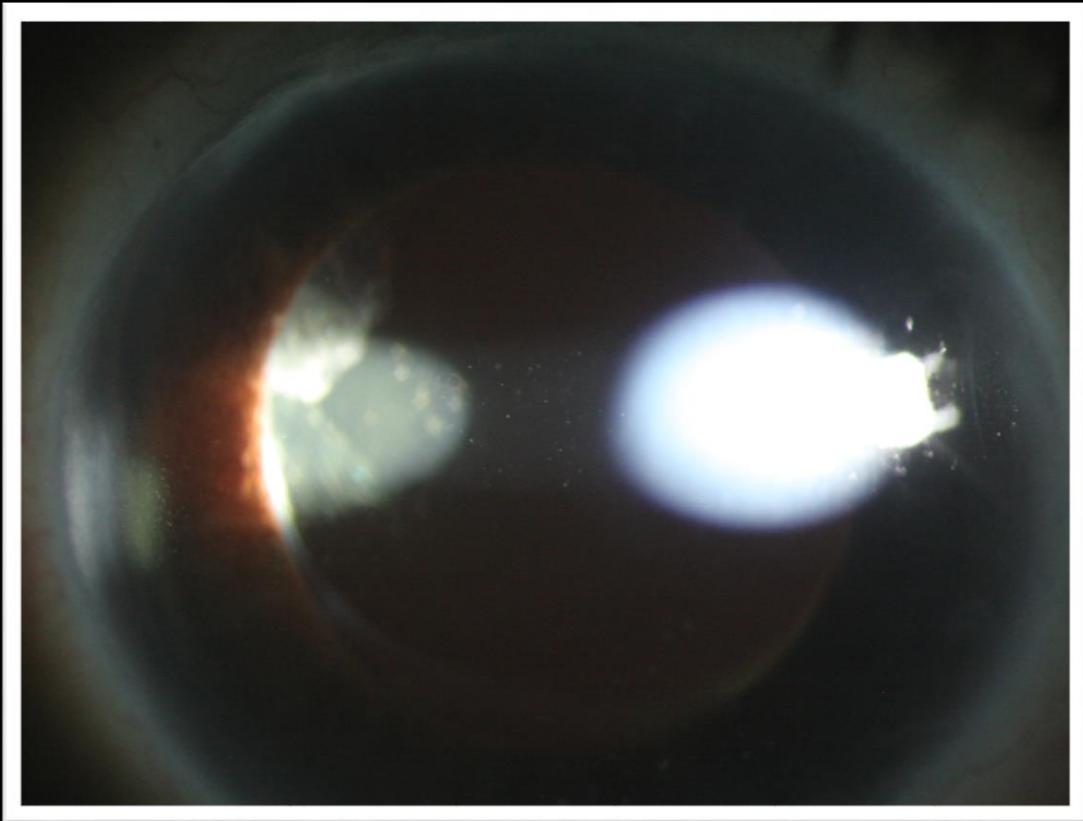
- Approximately 4 million eligible patients in 2012
- 5299 cases of uveitis, prevalence of 133 per 100 000 (95% CI, 129.1-136.3)
- 146 cases per 100 000 women (95% CI, 140.3-150.8)
- 119 cases per 100 000 men (95% CI, 114.1-123.9).
- Noninfectious uveitis (NIU) 91% ,prevalence of 121 cases per 100 000 (95% CI, 117.5-124.3).
- 81% of NIU cases (3904 cases) were classified as anterior NIU, prevalence of 98 per 100 000 adults (95% CI, 94.7-100.9).

Anatomical classification SUN

- Anterior uveitis
 - Iris
 - Ciliary body
- Intermediate uveitis
 - Vitreous
 - Pars plana
- Posterior uveitis
 - Retina
 - Choroid
- Panuveitis



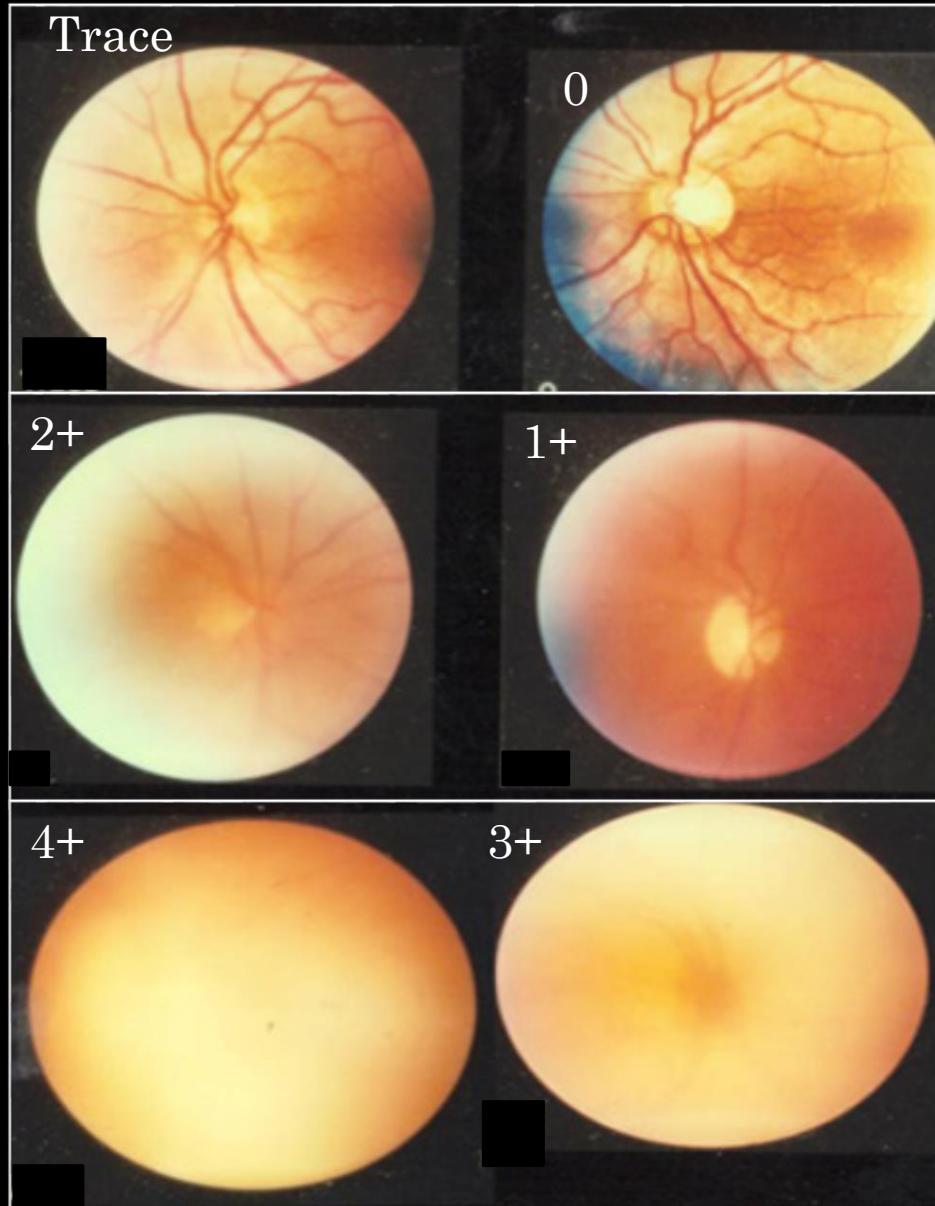
Anterior chamber cell – SUN criteria



Grading Scheme for Anterior Chamber Cells

Grade	Cells in the field (Field size is a 1x1mm slit beam)
0	<1
0.5+	1-5
1 +	6-15
2 +	16-25
3 +	26-50
4 +	> 50

Vitreous haze – SUN criteria



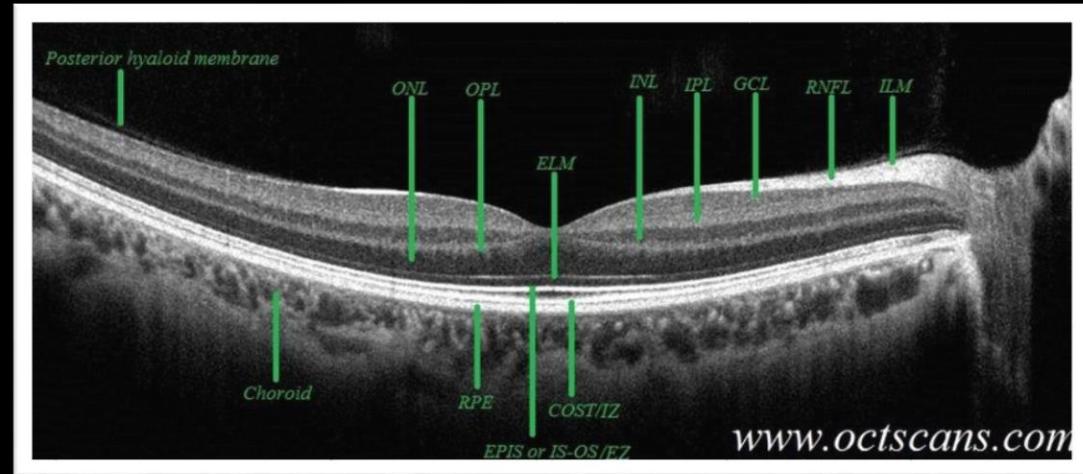
Grade	Amount of vitreous flare/haze
0	No flare
0.5+	Trace
1+	Clear optic disc and vessels, hazy nerve fiber layer
2+	Hazy optic disc and vessels
3+	Optic disc visible
4+	Optic disc not visible

Normal Fundus and Normal FA

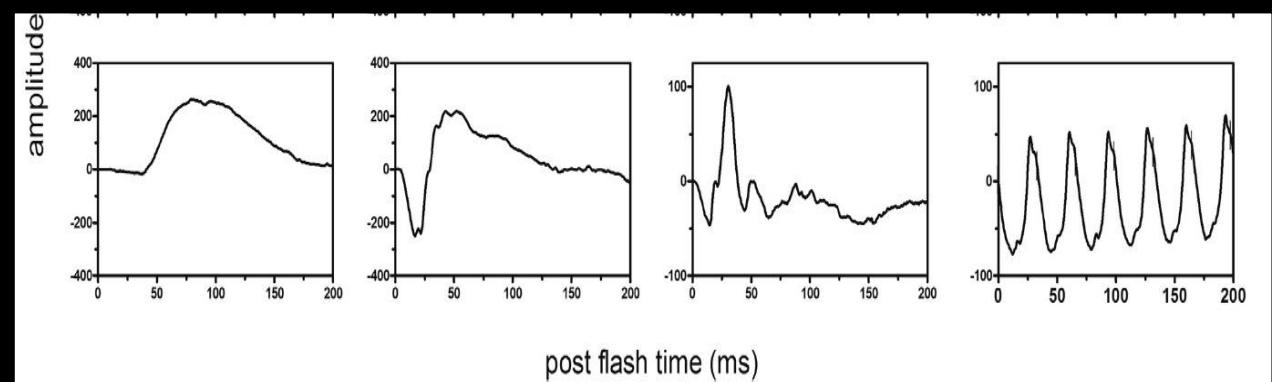
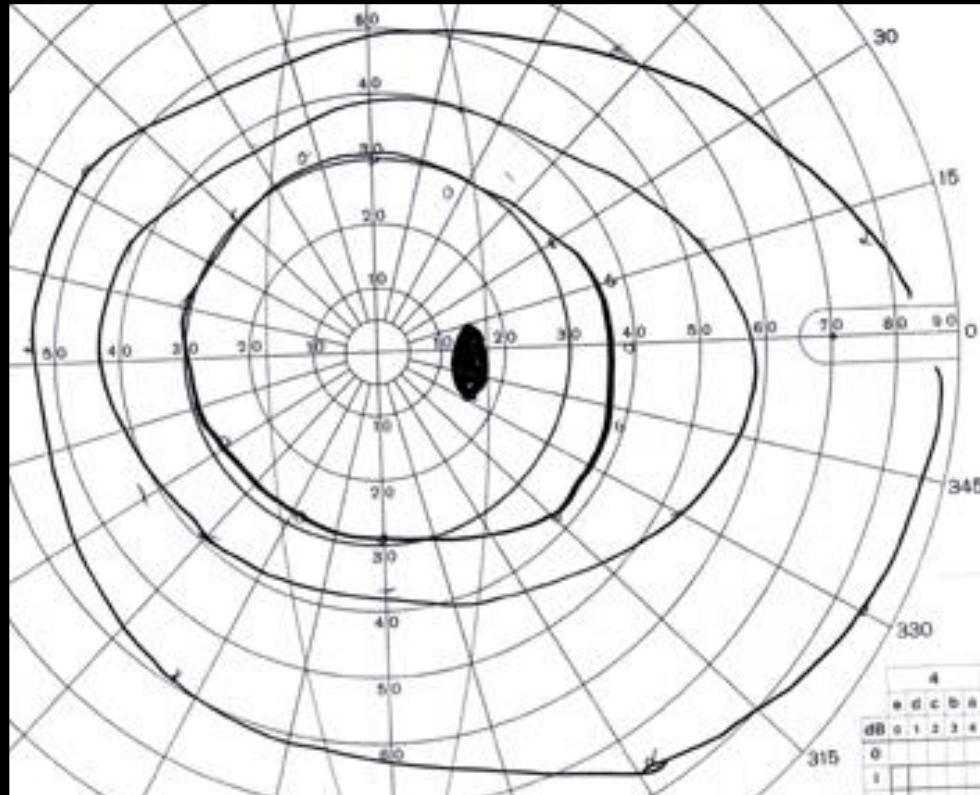


For reference..

Normal Autofluorescence and OCT

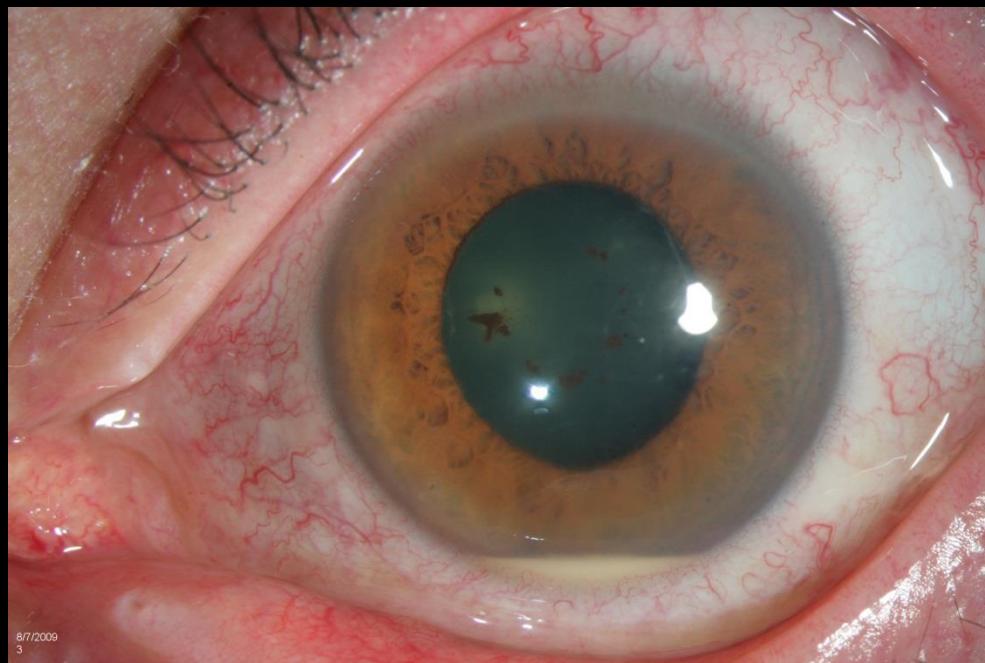


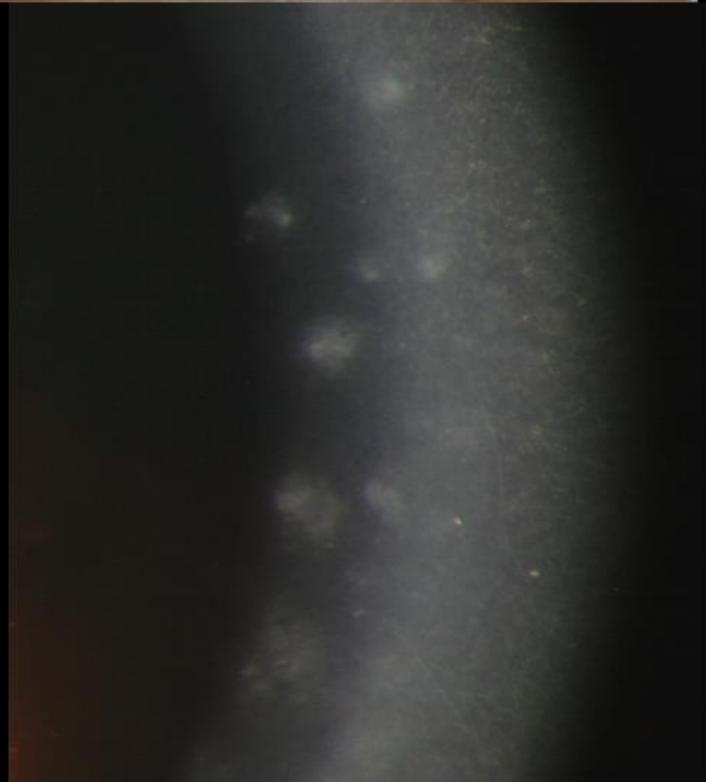
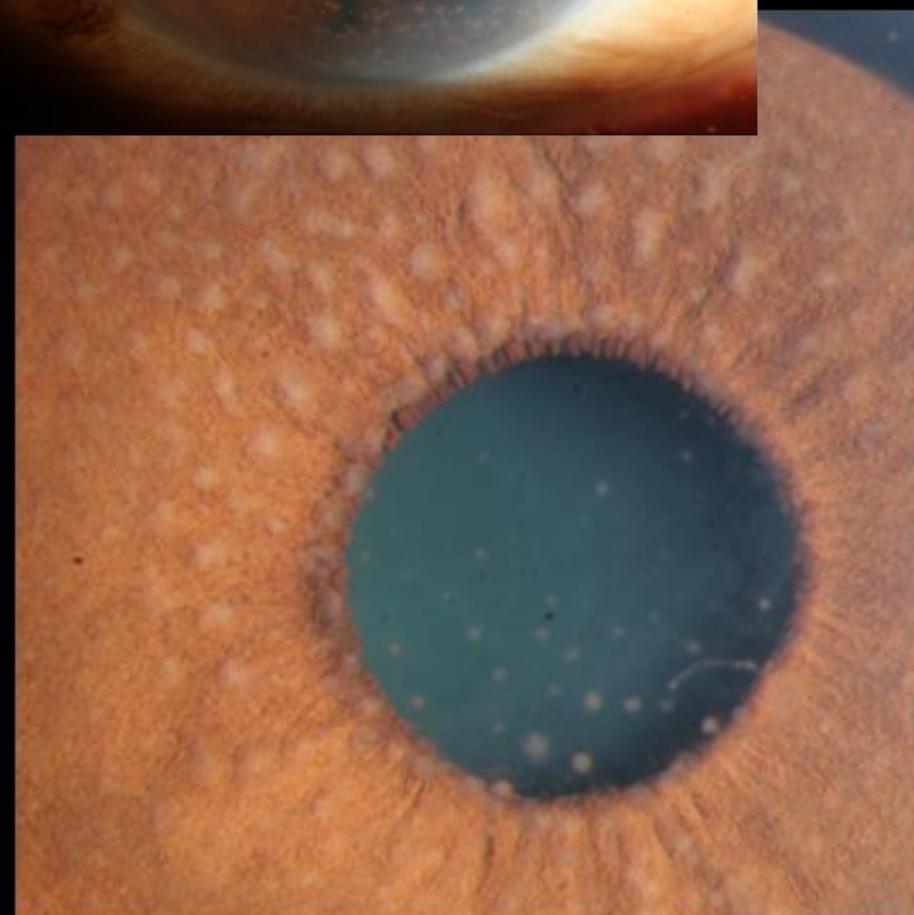
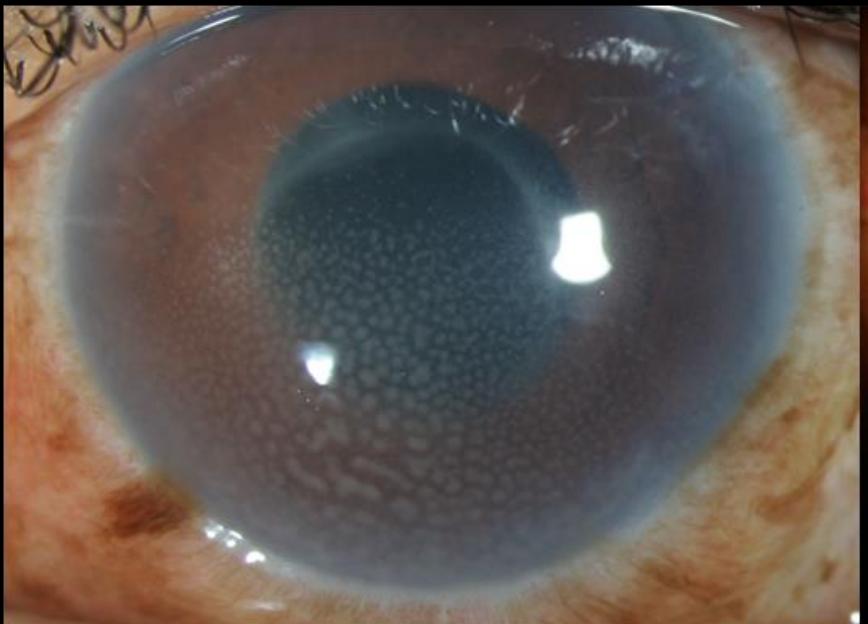
Normal visual fields and ERG



Anterior uveitis

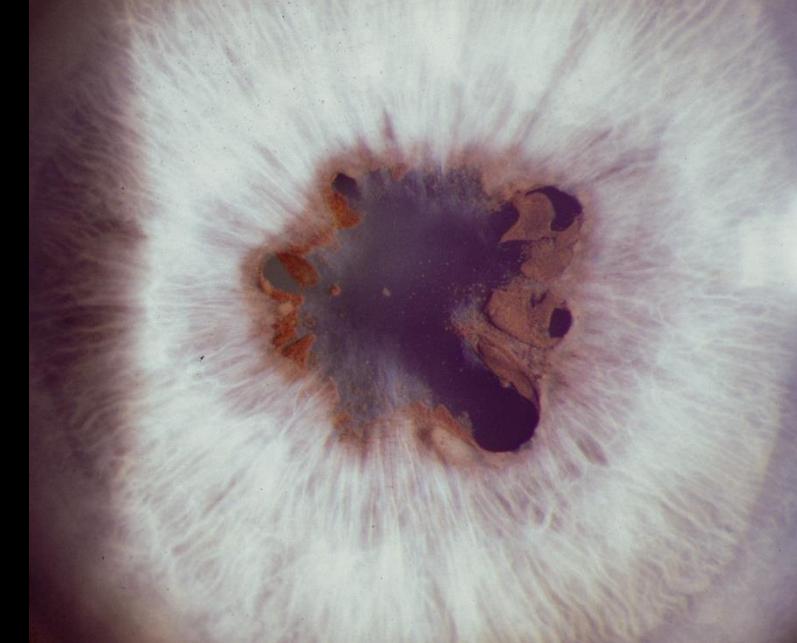
- Commonly HLA B 27 associated, JRA
- Typically alternating pattern “flip-flop” (one eye at a time)
- RSVP – redness, sensitivity, vision problems, pain





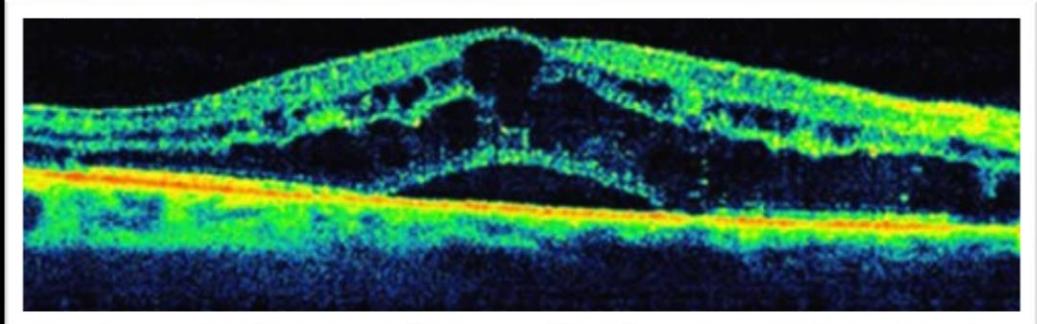
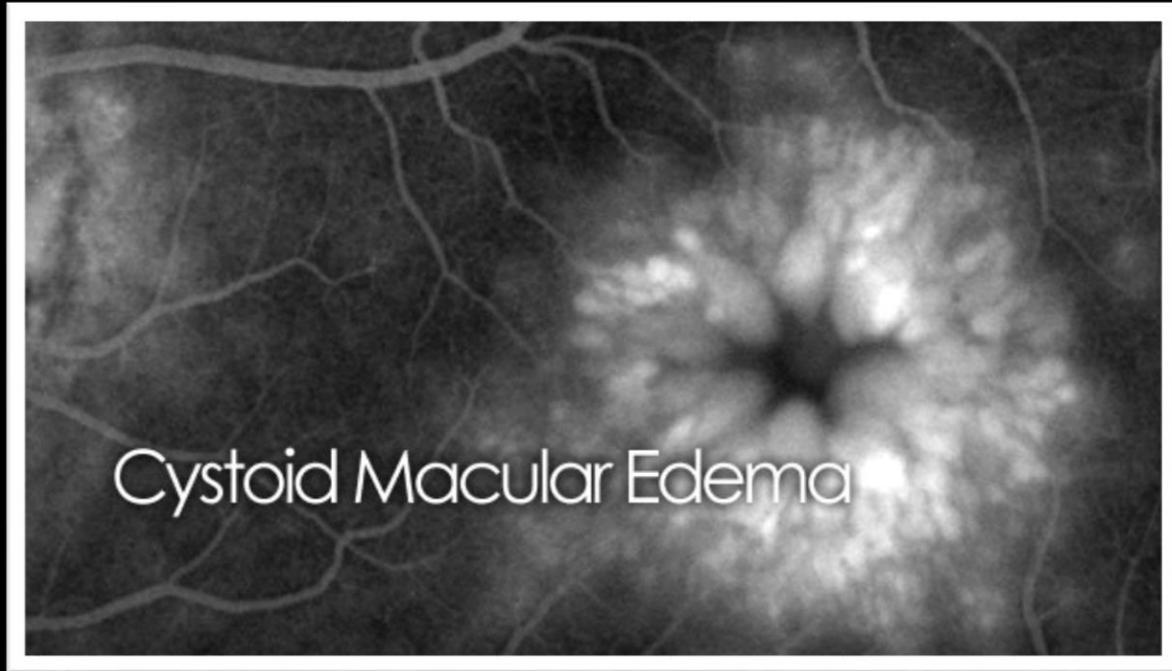
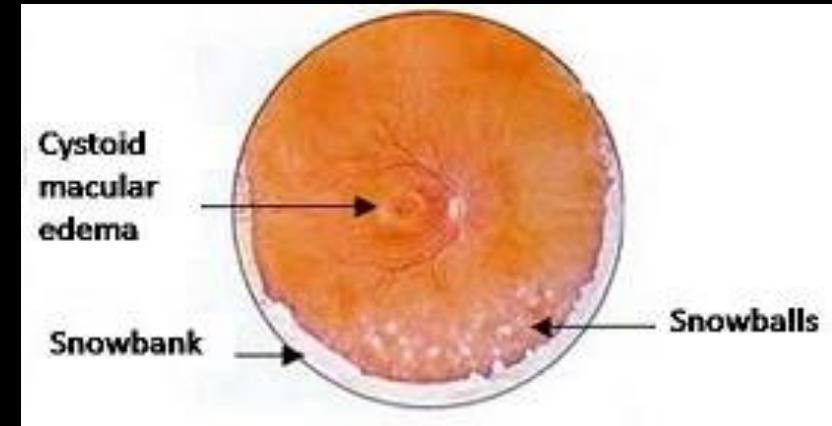
Treatment

- Most respond to topical/local therapy with corticosteroids
 - Drops, injections
- Some may require IMT
 - Agents of choice
 - MTX
 - Anti-TNF



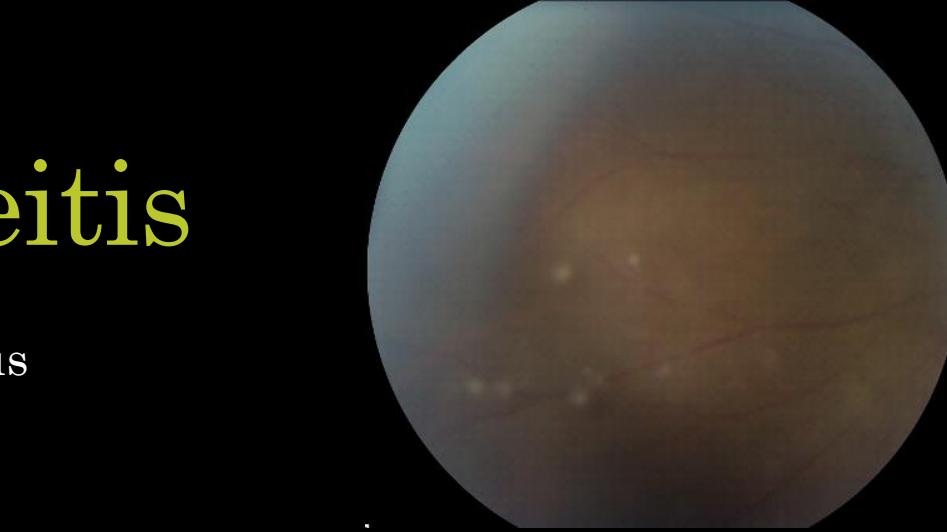
Intermediate uveitis

- Commonly idiopathic
- Presents with floaters
- Decreased vision from macular edema



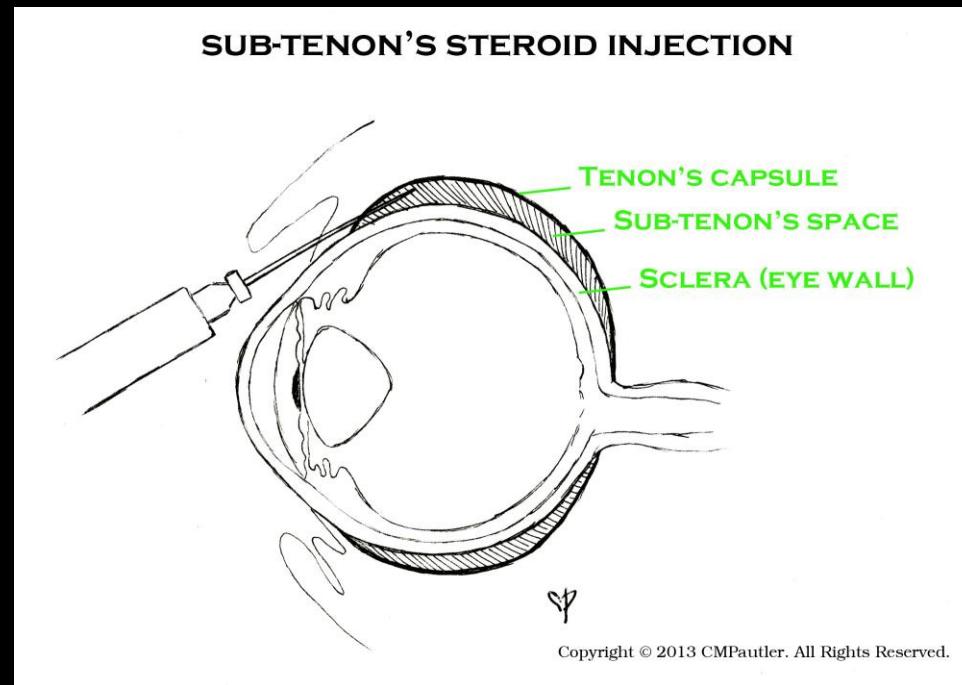
Intermediate Uveitis

- Major inflammation in the vitreous
- Accounts for 15% of cases
- Snowballs, snowbanking, retinal phlebitis, CME
- Don't forget lymphoma



Treatment

- Oral steroid
- Intraocular steroid
- Periocular steroid
- Caution – cataract, glaucoma
- May require IMT



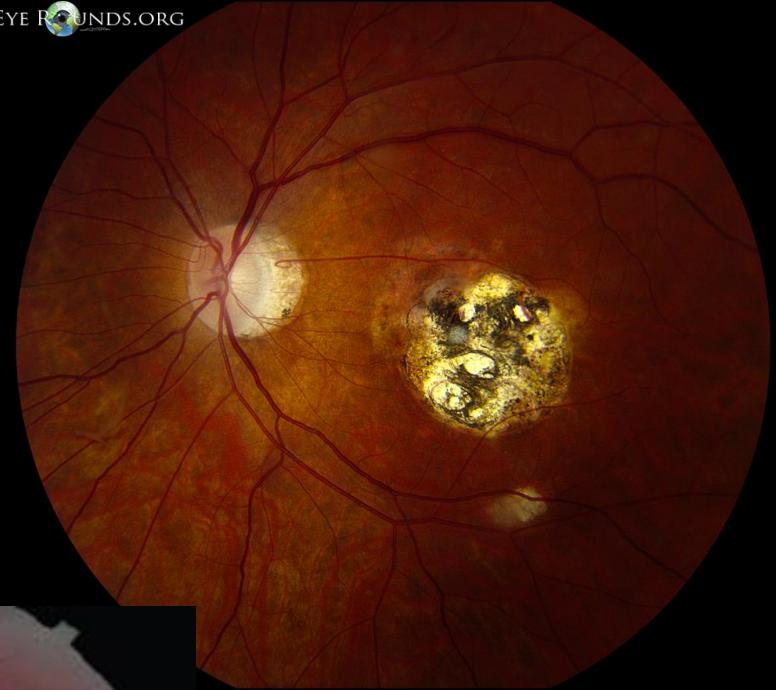
**No financial interest

Posterior/ panuveitis

- Variable phenotype
 - Associated with systemic disease – Behcets, sarcoidosis, syphilis
 - Infectious- TB, Toxo, viral infections
 - Idiopathic
 - Neoplastic
-
- Needs extensive workup – imaging and lab
 - Complete review of systems
 - Co-ordinate care with other specialties

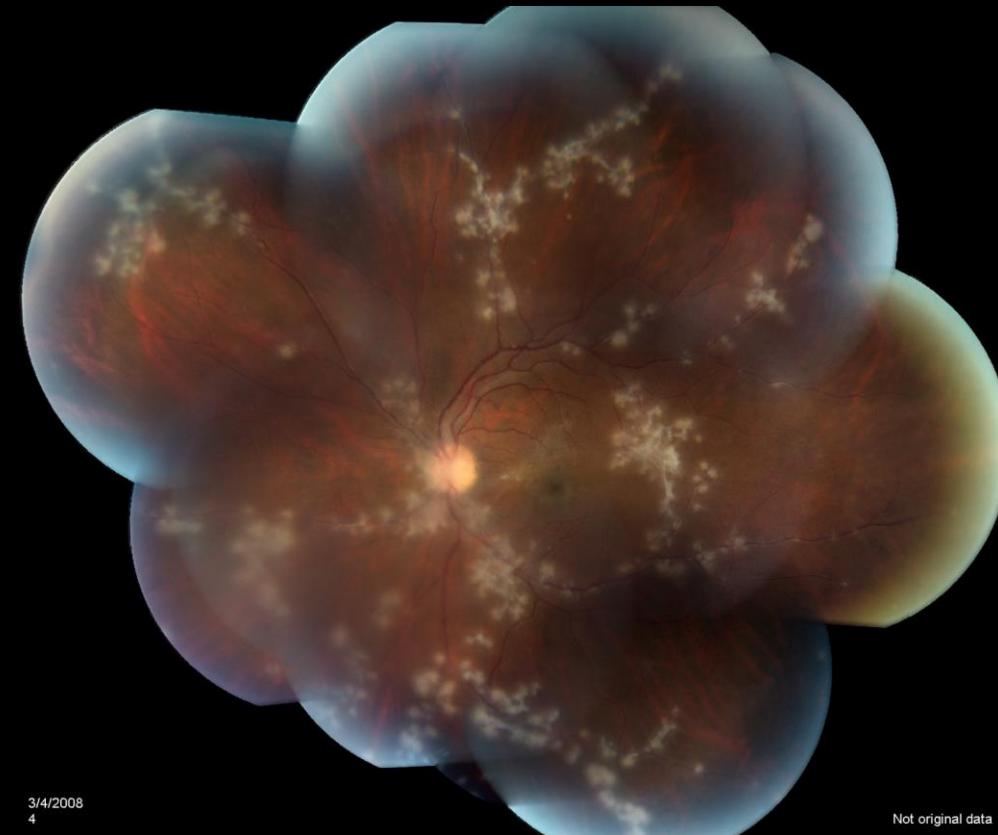
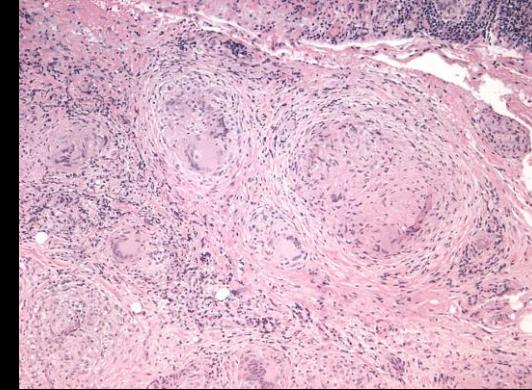
Toxoplasmosis

- Definite host Cat
- Undercooked meat, untreated water
- Cyst dormant; Tachyzoite active
- Serology
- Clinical exam
- Triple treatment (Bactrim)
- May need steroid



Sarcoidosis

- Granulomatous inflammation
- Usually chronic
- Bilateral
- Lungs frequently involved
- CXR, CT chest, Gallium scan
- Steroids
- IMT

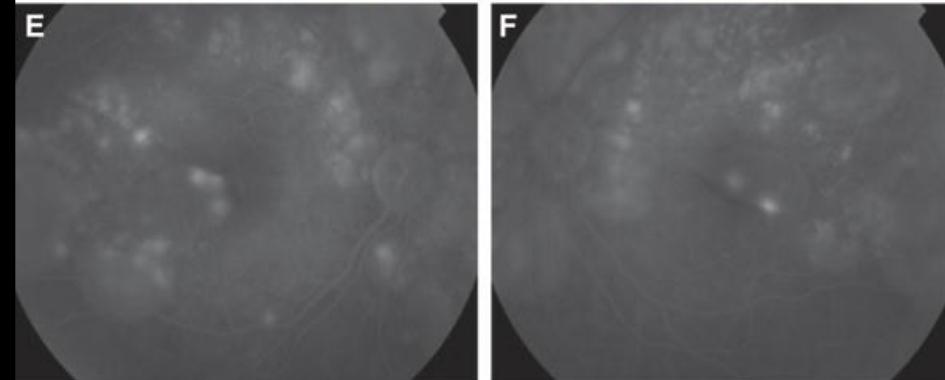
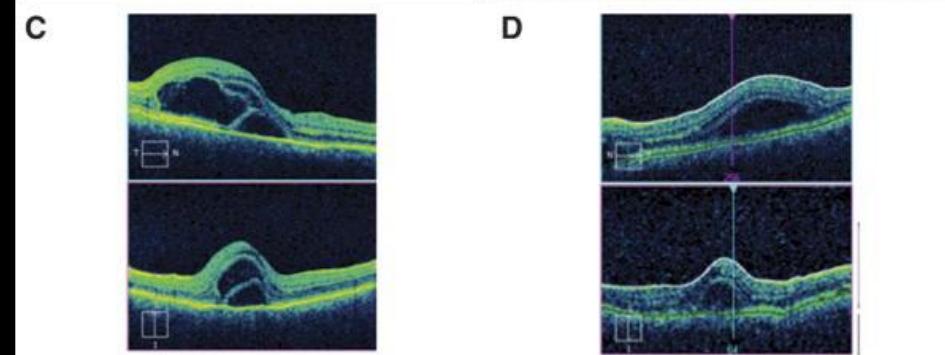
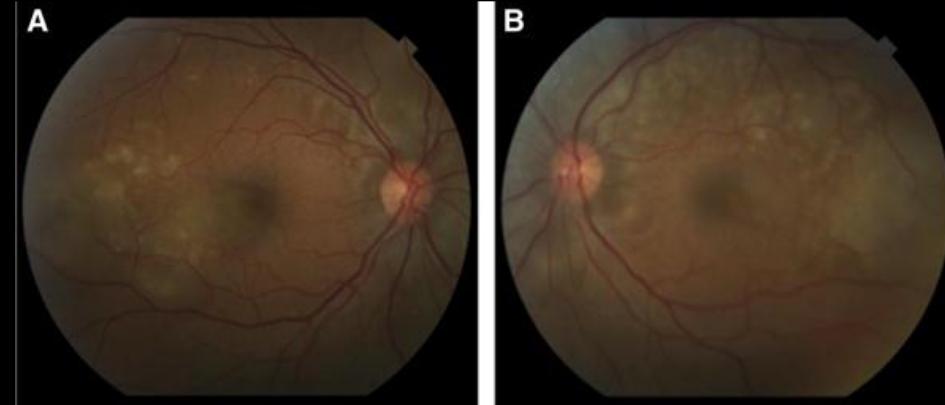


VKH

- Eyes, skin, CNS
- Chronic, bilateral

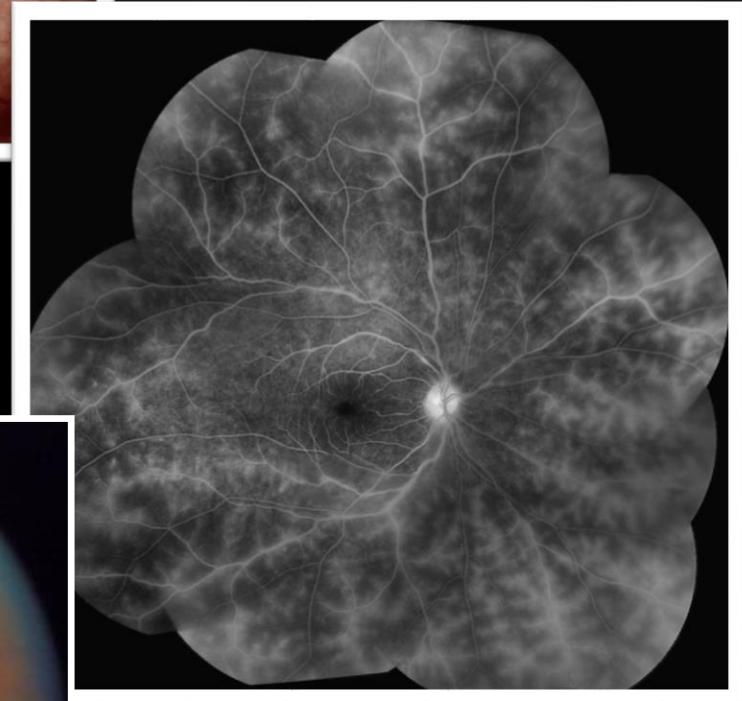
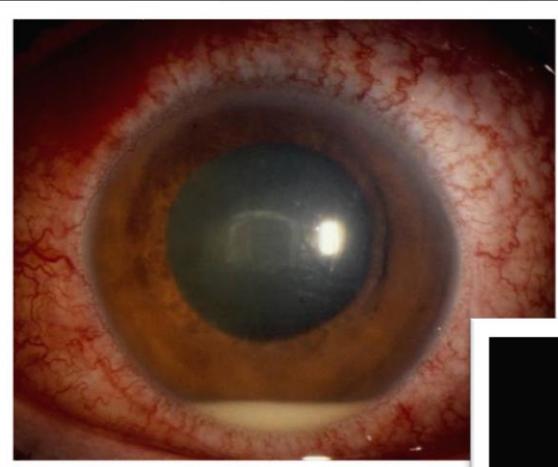


- Perilimbal vitiligo, poliosis
- Exudative retinal detachments

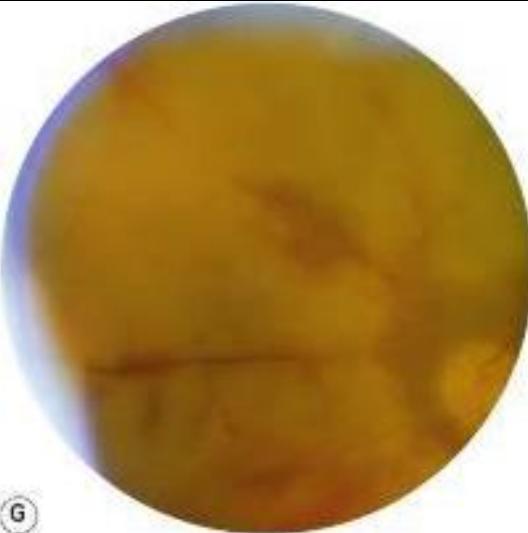


Behcets disease

- Bilateral
- Young males
- Japan, Turkey
- Hypopyon uveitis, genital and oral ulcers
- Retinal vasculitis
- Aggressive steroid/ IMT
- Blind/death



Viral retinitis



Immediate intraocular and systemic antivirals

Steroid for inflammation



Serpiginous chorioretinopathy

- Chronic, recurrent, bilateral
- M=F
- Relentless



Birdshot chorioretinopathy

- Blurry vision, field loss, night blindness
 - HLA A 29
 - Chronic, bilateral
-
- Needs long term treatment

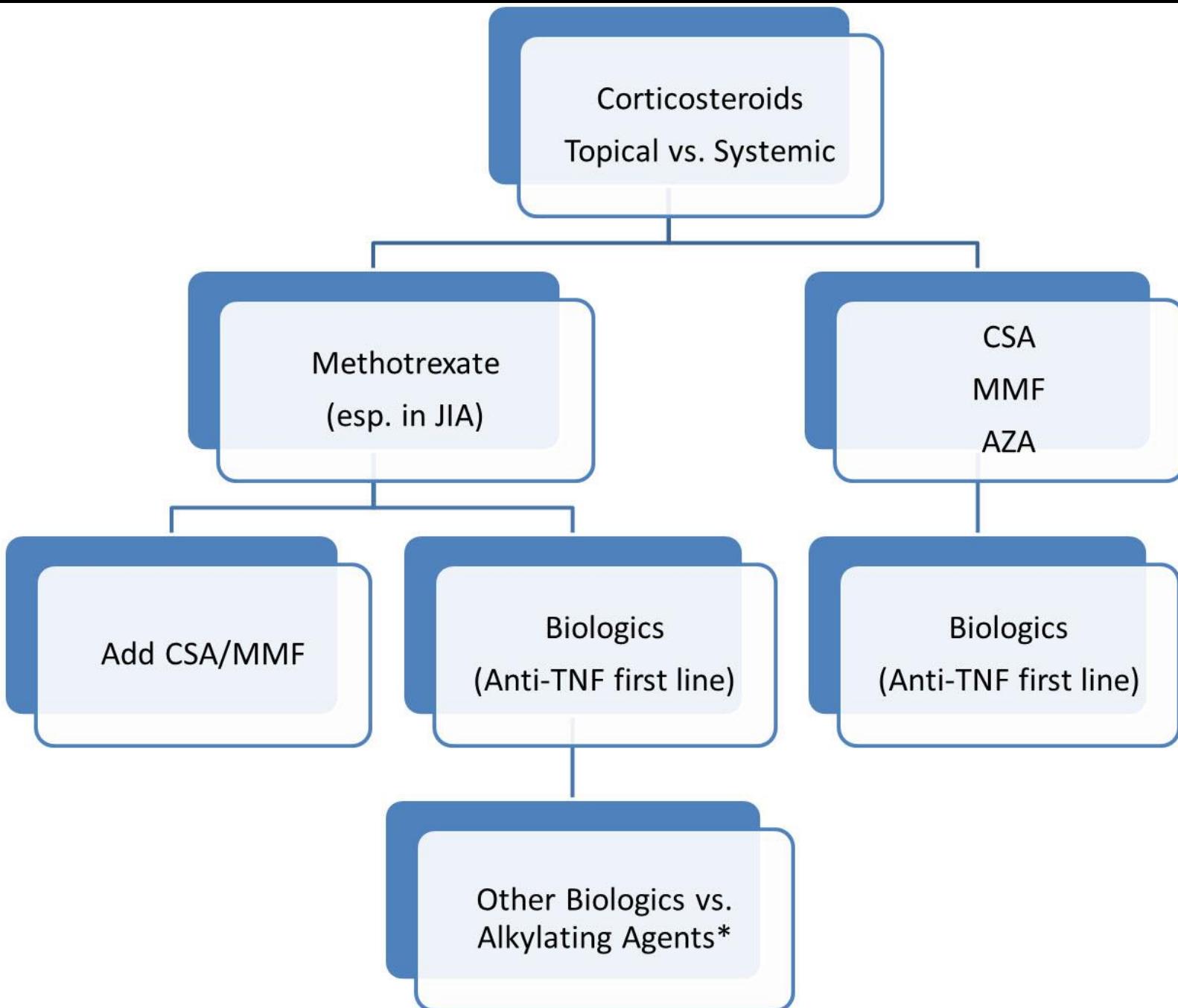


Work up

- CBC
- UA
- ANA, anti-DNA, RF, anti-CCP
- HLA typing
- Lyme disease antibody and western blot
- PPD, chest X-ray
- ACE
- Chest CT, and Gallium scanning if sarcoidosis suspected
- RPR/FTA-ABS
- HIV
- Toxoplasma IgM/IgG
- Audiology/LP if tinnitus and headaches/vitiligo
- Additional as determined by patient presentation

Current Treatment of Uveitis

- Oral Corticosteroids
 - Risk of systemic toxicities
- Topical corticosteroid drops
 - Not effective on more serious or posterior uveitis
- Steroid injections
 - May need to be repeated for adequate control of the uveitis
 - Undesired side effects
- Immunosuppressive treatment
 - Does not cure uveitis and therapy is frequently associated with side effects that limit the duration and intensity of treatment.



Thank you